Louisville Metro Air Pollution Control District
850 Barret Avenue
Louisville, Kentucky 40204-1745

Federally Enforceable District Origin Operating Permit (FEDOOP)

Permit No.: O-0885-14-F Plant ID: 885

Effective Date: Click here to enter a date. Expiration Date: Click here to enter a date.

Permission is hereby given by the Louisville Metro Air Pollution Control District to operate the process(es) and equipment described herein which are located at:

ASG (AGI-Shorewood Group)
4501 Allmond Avenue
Louisville, KY 40209

The applicable procedures of District Regulation 2.17 regarding review by the U.S. EPA and public participation have been followed in the issuance of this permit. Based on review of the application on file with the District, permission is given to operate under the conditions stipulated herein. If a renewal permit is not issued prior to the expiration date, the owner or operator may continue to operate in accordance with the terms and conditions of this permit beyond the expiration date, provided that a complete renewal application is submitted to the District no earlier than twelve (12) months and no later than ninety (90) days prior to the expiration date.

Emission limitations to qualify for non-major status:

Pollutant:	VOC	Total HAP	Single HAP
Tons/year:	25	12.5	5

Application No. See Table Application Received: See Table

Permit Writer: Chris Gerstle

Public Notice Date: 11/15/2014

{manager1}
Air Pollution Control Officer
{date1}

TABLE OF CONTENTS

FEDOOP Permit Revisions/Changes

Revision No.	Permit No.	Issue Date	Public Notice Date	Change Type	Change Scope	Description
Initial	127-01-F	11/05/2001	6/3/2001	Initial	Entire Permit	Initial Issuance
R1	O-0885-14-F	xx	11/15/2014	Renewal	Entire Permit	Permit Renewal; Removed equipment taken out of service; Incorporate Construction Permits (see table below)

Permit Number	Description
143-06-C	Two (2) Lithographic Presses: One (1) two-color Heidelberg Model SM-102-2P and one (1) six-color Heidelberg Model SM-CD-102-6.
159-07-C	One (1) Heidelberg, model CD-102-5L, 5-color offset lithography sheet-fed printing press.
120-09-C	Two (2) Ink Jet Printers (MCS Incorporated Array Imager) (1025 RSI Base) (500 ft/min)

Application #	Date Received	Type
15590	7/17/2006	FEDOOP Application
15591	1/18/2007	FEDOOP Application
15594	2/18/2009	Form 9400-J (Insignificant Activities)
15596	5/7/2010	FEDOOP Application
57207	7/11/2013	STAR Exempt Application

Abbreviations and Acronyms

AP-42	- AP-42, *Compilation of Air Pollutant Emission Factors,* published by USEPA
APCD	- Louisville Metro Air Pollution Control District
BAC	- Benchmark Ambient Concentration
BACT	- Best Available Control Technology
Btu	- British thermal unit
CEMS	- Continuous Emission Monitoring System
CFR	- Code of Federal Regulations
CO	- Carbon monoxide
CO_2	- Carbon dioxide
District	- Louisville Metro Air Pollution Control District
EA	- Environmental Acceptability
EPA	- Environmental Protection Agency
gal	- U.S. fluid gallons
GHG	- Greenhouse Gas
HAP	- Hazardous Air Pollutant
hr	- Hour
lb	- Pound
l	- Liter
LMAPCD	- Louisville Metro Air Pollution Control District
MACT	- Maximum Achievable Control Technology
mmHg	- Millimeters of mercury column height
MM	- Million
NAICS	- North American Industry Classification System
NSR	- New Source Review
NOx	- Nitrogen oxides
NSPS	- New Source Performance Standards
PM	- Particulate Matter
PM_{10}	- Particulate Matter less than 10 microns
$PM_{2.5}$	- Particulate Matter less than 2.5 microns
ppm	- Parts per million
PSD	- Prevention of Significant Deterioration
PMP	- Preventive Maintenance Plan
psia	- Pounds per square inch absolute
PTE	- Potential to Emit
RACT	- Reasonably Available Control Technology
SIC	- Standard Industrial Classification
SIP	- State Implementation Plan
SO_2	- Sulfur dioxide
STAR	- Strategic Toxic Air Reduction (includes Regulations 5.00, 5.01, 5.20, 5.21, 5.22, 5.23)
TAC	- Toxic Air Contaminant
tpy	- Tons per year
UTM	- Universal Transverse Mercator
VOC	- Volatile Organic Compound
w.c.	- Water column
year	- Any period of twelve consecutive months, unless "calendar year" is specified
yr	- Year, or any 12 consecutive-month period, as determined by context

Preamble

This permit covers only the provisions of Kentucky Revised Statutes Chapter 77 Air Pollution Control, the regulations of the Louisville Metro Air Pollution Control District (District) and, where appropriate, certain federal regulations. The issuance of this permit does not exempt any owner or operator to whom it has been issued from prosecution on account of the emission or issuance of any air contaminant caused or permitted by such owner or operator in violation of any of the provisions of KRS 77 or District regulations. Any permit shall be considered invalid if timely payment of annual fees is not made. The permit contains general permit conditions and specific permit conditions. General conditions are applicable unless a more stringent requirement is specified elsewhere in the permit.

General Conditions

1. The owner or operator shall comply with all General Conditions herein and all terms and conditions in the referenced process/process equipment list.

2. All terms and conditions in this FEDOOP are enforceable by EPA, except those terms and conditions specified as District-only enforceable, and those which are not required pursuant to the Clean Air Act Amendments of 1990 (CAAA) or any of the Act's applicable requirements.

3. All application forms, reports, compliance certifications, and other relevant information submitted to the District shall be certified by a responsible official. If a change in the responsible official (RO) occurs during the term of this permit, or if an RO is added, the owner or operator shall provide written notification (Form AP-100A) to the District within 30 calendar days of such change or addition.

4. The owner or operator shall submit an annual compliance certification, signed by the responsible official, to the District, on or before April 15 of the year following the year for which the certification applies. This certification shall include completion of District Form 9440-O.

5. Periodic testing, instrumental monitoring, or non-instrumental monitoring, which may include record keeping, shall be performed to the extent necessary to yield reliable data for purposes of demonstrating continuing compliance with the terms and conditions of this permit.

6. The owner or operator shall retain all records required by the District or any applicable requirement, including all required monitoring data and supporting information, for a period of five years from the date of the monitoring, sampling, measurement, report, or application, unless a longer time period for record retention is required by the District or an applicable requirement. Records shall be retrievable within a reasonable time and made available to the District, Kentucky Division for Air Quality, or the EPA upon request.

7. The owner or operator shall provide written notification to the District, and receive approval, prior to making any changes to existing equipment or processes that would result in emissions of any regulated pollutant in excess of the allowable emissions specified in this permit.

8. This permit may be reissued, revised, reopened, or revoked pursuant to District Regulation 2.17. Repeated violations of permit conditions are sufficient cause for revocation of this permit. The filing of a request by the owner or operator for any reissuance, revision, revocation, termination, or a notification of planned changes in equipment or processes, or anticipated noncompliance shall not alter any permit requirement.

9. Except as otherwise specified or limited herein, the owner or operator shall not allow or cause the emissions to equal or exceed either 10 tons per year, or such lesser quantity as the EPA has established by rule, of any one Hazardous Air Pollutant (HAP) or 25 tons per year of all HAPs combined. Fugitive HAP emissions shall be included in this limit. HAPs are listed in Section 112(b) of the CAAA and as amended in 40 CFR 63, Subpart C.

10. Except as otherwise specified or limited herein, the owner or operator shall not allow or cause the emissions to equal or exceed 100 tons per year of any regulated pollutant, including particulate matter, PM_{10}, $PM_{2.5}$, sulfur dioxide, carbon monoxide, nitrogen oxides, lead, hydrogen sulfide, gaseous fluorides, total fluorides, or Volatile Organic Compounds (VOC); any pollutant subject to any standard in District Regulation 7.02; any substance listed in sections 112(r), 602(a) and 602(b) of the CAAA; or any combination of greenhouse gasses whose combined global warming potential equals or exceeds 100,000 tons CO_2-equivalent, as defined in 40 CFR 98). Fugitive emissions shall be included in these limits for source categories listed in District Regulation 2.16.

11. Unless specified elsewhere in this permit, the owner or operator shall complete required monthly record keeping within 30 days following the end of each calendar month.

12. Unless specified elsewhere in this permit, the owner or operator shall submit annual reports demonstrating compliance with the emission limitations specified. The report shall contain monthly and consecutive 12-month totals for each pollutant that has a federally enforceable limitation on the potential to emit. All reports shall include the company name, plant ID number, and the beginning and ending date of the reporting period. The compliance reports shall clearly identify any deviation from a permit requirement or a declaration that there were no such deviations. All annual compliance reports shall include the statement:
    - "Based on information and belief formed after reasonable inquiry, I certify that the statements and information in this document are true, accurate, and complete" and the
    - Signature and title of a responsible official of the company.

    The report must be postmarked no later than March 1st of the year following the calendar year covered in the annual report.

13. The owner or operator shall comply with all applicable requirements of the following federally enforceable District Regulations:

Regulation	Title
1.01	General Application of Regulations and Standards
1.02	Definitions
1.03	Abbreviations and Acronyms
1.04	Performance Tests
1.05	Compliance with Emissions Standards and Maintenance Requirements
1.06	Source Self-Monitoring, Emissions Inventory Development and Reporting
1.07	Excess Emissions During Startups, Shutdowns, and Upset Conditions
1.08	Administrative Procedures
1.09	Prohibition of Air Pollution
1.10	Circumvention
1.11	Control of Open Burning
1.14	Control of Fugitive Particulate Emissions
2.01	General Application (Permit Requirements)
2.02	Air Pollution Regulation Requirements and Exemptions
2.03	Authorization to Construct or Operate; Demolition/Renovation Notices and Permit Requirements
2.07	Public Notification for Title V, PSD, and Other Offset Permits; SIP Revisions; and Use of Emission Reduction Credits
2.09	Causes for Permit Modification, Revocation, or Suspension
2.10	Stack Height Considerations
2.11	Air Quality Model Usage
2.17	Federally Enforceable District Origin Operating Permits
4.01	General Provisions for Emergency Episodes
4.02	Episode Criteria
4.03	General Abatement Requirements
4.07	Episode Reporting Requirements
6.01	General Provisions (Existing Affected Facilities)
6.02	Emission Monitoring for Existing Sources
7.01	General Provisions (New Affected Facilities)

14. The owner or operator shall comply with all applicable requirements of the following District-only enforceable regulations:

Regulation	Title
1.12	Control of Nuisances
1.13	Control of Objectionable Odors in the Ambient Air
2.08	Fees
5.00	Definitions
5.01	General Provisions
5.02	Adoption and Incorporation by Reference of National Emission Standards for Hazardous Air Pollutants
5.14	Hazardous Air Pollutants and Source Categories
7.02	Adoption of Federal New Source Performance Standards

15. The owner or operator shall submit emission inventory reports, as required by Regulation 1.06, if so notified by the District.

16. The owner or operator shall submit timely reports of abnormal conditions or operational changes that may cause excess emissions, as required by Regulation 1.07.

17. Applications, reports, test data, monitoring data, compliance certifications, and any other document required by this permit shall be submitted to:

Air Pollution Control District
Room 205
850 Barret Ave
Louisville, KY 40204-1745

Emission Unit U1: Printing

Sheetfed lithographic printing presses and inkjet printers

U1 Applicable Regulations

FEDERALLY ENFORCEABLE REGULATIONS		
Regulation	**Title**	**Applicable Sections**
7.25	Standard of Performance for New Sources Using Volatile Organic Compounds	All

U1 Equipment

Emission Process	Description	Applicable Regulation	Control ID	Stack ID	Application Date
E1	One (1) 8-color offset sheetfed lithography printing press (840-1 P94) (Make: Heidelberg; Model: SM-102-P-8C; Capacity: 15,000 sheets/hr; Installed: 2000)	7.25 (BACT)	N/A	F	5/26/2000
E2	One (1) 8-color offset sheetfed lithography printing press (840-2 P104) (Make: Heidelberg; Model: SM-102-P-8C; Capacity: 15,000 sheets/hr; Installed: 2001)	7.25 (BACT)			3/12/2001
E3	One (1) 2-color offset sheetfed lithography printing press (240-N-P27) (Make: Heidelberg; Model: SM-102-2P; Capacity: 13,000 sheets/hr; Installed: 2006)	7.25 (BACT)			3/10/2006
E4	One (1) 6-color offset sheetfed lithography printing press (640-CD-P76) (Make: Heidelberg; Model: SM-CD-102-6; Capacity: 15,000 sheets/hr; Installed: 2006)				3/10/2006
E5	One (1) 5-color offset lithography sheet-fed printing press (540C P540) (Make: Heidelberg; Model: CD-102-5L; Capacity: 15,000 sheets/hr; Installed: 2008)				5/15/2007
E6	One (1) Ink Jet Printer (Make: MCS Incorporated Array Imager; Model: 1025 RSI Base; Capacity: 500 ft/min; Installed: 2010)				4/20/2009
E7	One (1) Ink Jet Printer (Make: MCS Incorporated Array Imager; Model: 1025 RSI Base; Capacity: 500 ft/min; Installed: 2010)				4/20/2009

U1 Control Devices

There are no control devices associated with this unit.

U1 Specific Conditions

S1. **Standards** (Regulation 2.17, section 5.1)

a. **VOC**

i. The owner or operator shall not allow VOC emissions from Emission Point E1 to equal or exceed 10.8 tons per 12 consecutive month period. The VOC limit is also considered BACT for Regulation 7.25. (Regulation 7.25, section 3.1) (Permit 110-00-C, effective 6/9/2000)

ii. The owner or operator shall not allow VOC emissions from Emission Point E2 to equal or exceed 10.8 tons per 12 consecutive month period. The VOC limit is also considered BACT for Regulation 7.25. (Regulation 7.25, section 3.1) (Permit 69-01-C, effective 3/12/2001)

iii. The owner or operator shall not allow or cause the plant-wide VOC emissions, including all inks, fountain solutions, additives, solvents, and any other VOC containing materials to exceed 25[1] tons during any consecutive 12-month period. (Regulation 7.25, section 2.1 and 3.1)

b. **HAP**

i. The owner or operator shall not allow the plant-wide single HAP emissions to equal or exceed 5 tons per 12 consecutive month period. (Regulation 2.17, section 5.1)

ii. The owner or operator shall not allow the plant-wide total HAP emissions to equal or exceed 12.5 tons per 12 consecutive month period. (Regulation 2.17, section 5.1)

S2. **Monitoring and Record Keeping** (Regulation 2.17, section 5.2)

The owner or operator shall maintain the following records for a minimum of 5 years and make the records readily available to the District upon request.

a. **VOC**

i. The owner or operator shall monitor and maintain records of the name, quantity used, and VOC content for each of the following raw materials: inks, fountain solution concentrate, fountain solution additive, blanket wash, roller wash, press cleaning materials, and any other VOC containing material used during each calendar month and consecutive 12-month period.

ii. The owner or operator shall maintain monthly records, including calculations, which show during each calendar month and consecutive 12-month period VOC emissions from:

1) Emission Point E1,

2) Emission Point E2, and

3) Plant-wide Emission Points.

[1] The company is subject to a plant-wide Best Available Control Technology (BACT) VOC limit of 50 tons per year. The LMAPCD approved the May 9, 1997 BACT analysis which concluded that emission control technologies weren't cost effective, but in order to be exempt from STAR a 25 tons per consecutive 12 month period limit is required.

iii. The owner or operator shall maintain a copy of the Material Safety Data Sheet (MSDS) for each VOC containing raw material used at this plant.

b. **HAP**

i. The owner or operator shall monitor and maintain records of the name, quantity used, and HAP content for each of the following raw materials: inks, fountain solution concentrate, fountain solution additive, blanket wash, roller wash, press cleaning materials, and any other HAP containing material used during each calendar month and consecutive 12-month period.

ii. The owner or operator shall monthly calculate and record the monthly and consecutive 12-month emissions for each individual HAP for each calendar month.

iii. The owner or operator shall monthly calculate and record the monthly and consecutive 12-month emissions of total HAP for each calendar month.

iv. The owner or operator shall maintain a copy of the Material Safety Data Sheet (MSDS) for each HAP containing raw material used at this plant.

S3. **Reporting** (Regulation 2.17, section 5.2)

The owner or operator shall include, at a minimum, the following information in the annual compliance monitoring reports. If no deviations from permit requirements occur during a reporting period, the owner or operator shall submit a negative declaration stating that no permit deviations occurred during the reporting period.

a. **VOC**

i. Monthly and 12 consecutive month VOC emissions for each month for:

1) Emission Point E1,

2) Emission Point E2, and

3) Plant-wide Emission Points;

ii. Identification of all periods of exceedances of the emission standards including the quantity of excess emissions; and

iii. Description of any corrective action taken for each exceedance.

b. **HAP**

i. Monthly and 12 consecutive month total and single HAP emissions for each month;

ii. Identification of all periods of exceedances of the emission standard including the quantity of excess emissions; and

iii. Description of any corrective action taken for each exceedance.

Emission Unit IA1: Parts Washers

Parts washing through the use of cold low vapor pressure solvents

IA1 Applicable Regulations

FEDERALLY ENFORCEABLE REGULATIONS		
Regulation	**Title**	**Applicable Sections**
6.18	Standards of Performance for Solvent Metal Cleaning Equipment	1, 2, 3, 4.1, 4.2

IA1 Equipment

Emission Process	Description	Applicable Regulation	Control ID	Stack ID	Application Date
E8	Cold Solvent Parts Washer, with secondary reservoir (Make: Safety Clean; Model: N/A; Capacity: 20 gallons; Installed: 2001)	6.18	N/A	F	N/A
E9	Cold Solvent Parts Washer, no secondary reservoir (Make: J&J Tool Custom; Model: N/A; Capacity: 120 gallons; Installed: 2001)	6.18	N/A	F	N/A

IA1 Control Devices

There are no control devices associated with this unit.

IA1 Specific Conditions

S1. **Standards** (Regulation 2.17, section 5.2)

VOC

i. For cold solvent cleaners (parts washers) the owner or operator shall install, maintain, and operate the control equipment as follows:
(Regulation 6.18, section 4)

1) The cold cleaner shall be equipped with a tightly fitting cover that is free of cracks, holes, or other defects. If the solvent is agitated or heated, then the cover shall be designed so that it can be easily operated with 1 hand. (Regulation 6.18, section 4.1.1)

2) The cold cleaner shall be equipped with a drainage facility that is designed so that the solvent that drains off parts removed from the cleaner will return to the cold cleaner. The drainage facility may be external if the District determines that an internal type cannot fit into the cleaning system. (Regulation 6.18, section 4.1.2)

3) A permanent, conspicuous label summarizing the operating requirements specified in IA1 Specific Condition S1.ii.shall be installed on or near the cold cleaner. (Regulation 6.18, section 4.1.3)

4) If used, the solvent spray shall be a fluid stream, not a fine, atomized, or shower type spray, at a pressure that does not cause excessive splashing. Flushing of parts using a flexible hose or other flushing device shall be performed only within the freeboard area of the cold cleaner. Solvent flow shall be directed downward to avoid turbulence at the air-solvent interface and to prevent solvent from splashing outside of the cold cleaner. (Regulation 6.18, section 4.1.4)

5) Work area fans shall be located and positioned so that they do not blow across the opening of the cold cleaner. (Regulation 6.18, section 4.1.6)

6) The solvent-containing portion of the cold cleaner shall be free of all liquid leaks. Auxiliary cold cleaner equipment such as pumps, water separators, steam traps, or distillation units shall not have any visible liquid leaks, visible tears, or cracks. (Regulation 6.18, section 4.1.8)

ii. For cold solvent cleaners (parts washers) the owner or operator shall observe at all times the following operating requirements: (Regulation 6.18, section 4.2)

1) Waste solvent shall neither be disposed of nor transferred to another party in a manner such that more than 20% by weight of the waste solvent can evaporate. Waste solvent shall be stored only in a covered container. A covered container may contain a device that allows pressure relief, but does not allow liquid solvent to drain from the container. (Regulation 6.18, section 4.2.1)

2) The solvent level in the cold cleaner shall not exceed the fill line. (Regulation 6.18, section 4.2.2)

3) The cold cleaner cover shall be closed whenever a part is not being handled in the cold cleaner. (Regulation 6.18, section 4.2.3)

4) Parts to be cleaned shall be racked or placed into the cold cleaner in a manner that will minimize drag-out losses.
(Regulation 6.18, section 4.2.4)

5) Cleaned parts shall be drained for at least 15 seconds or until dripping ceases, whichever is longer. Parts having cavities or blind holes shall be tipped or rotated while the part is draining. During the draining, tipping, or rotating, the parts shall be positioned so that the solvent drains directly back to the cold cleaner. (Regulation 6.18, section 4.2.5)

6) A spill during solvent transfer shall be cleaned immediately, and the wipe rags or other sorbent material shall be immediately stored in a covered container for disposal or recycling, unless enclosed storage of these items is not allowed by fire protection authorities. (Regulation 6.18, section 4.2.6)

7) Sponges, fabric, wood, leather, paper products, and other absorbent material shall not be cleaned in a cold cleaner. (Regulation 6.18, section 4.2.7)

iii. The owner or operator shall not operate a cold cleaner using a solvent with a vapor pressure that exceeds 1.0 mm Hg (0.019 psi) measured at 20°C (68°F). (Regulation 6.18, section 4.3.2)

S2. **Monitoring and Record Keeping** (Regulation 2.17, section 5.2)

The owner or operator shall maintain the following records for a minimum of 5 years and make the records readily available to the District upon request.

VOC

For cold solvent cleaners (parts washers) the owner or operator shall maintain records that include the following for each purchase: (Regulation 6.18, section 4.4.2)

i. The name and address of the solvent supplier;

ii. The date of the purchase;

iii. The type of the solvent; and

iv. The vapor pressure of the solvent measured in mm Hg at 20°C (68°F).

S3. **Reporting** (Regulation 2.17, section 5.2)

VOC

There are no compliance reporting requirements for this equipment.

Insignificant Activities

Equipment	Qty.	PTE (tpy)	Regulation Basis
Cold solvent parts cleaner with secondary reservoir	1	0.0002 (VOC)	Regulation 1.02, Appendix A
Cold solvent parts cleaner, no secondary reservoir	1	0.09 (VOC)	Regulation 1.02

1. Insignificant Activities identified in District Regulation 1.02 Appendix A may be subject to size or production rate disclosure requirements.
2. Insignificant Activities identified in District Regulation 1.02 Appendix A shall comply with generally applicable requirements.
3. The owner or operator shall annually submit an updated list of insignificant activities that occurred during the preceding year, with the compliance certification due April 15th.
4. Emissions from Insignificant Activities shall be reported in conjunction with the reporting of annual emissions of the facility as required by the District.
5. The owner or operator may elect to monitor actual throughputs for each of the insignificant activities and calculate actual annual emissions, or use Potential to Emit (PTE) as the annual emissions for each piece of equipment.
6. The District has determined that no monitoring, record keeping, or reporting requirements apply to the insignificant activities listed, except for the equipment that has an applicable regulation and permitted under an insignificant activity (IA) unit.

Fee Comment

On May 15, 2013, the Board approved revisions to Regulation 2.08, which implemented a new fee structure. As a result, the source will be required to pay an annual fee.

Appendix A – Protocol Checklist for Performance Test

A completed protocol should include the following information:

- ☐ 1. Facility name, location, and ID #;
- ☐ 2. Responsible Official and environmental contact names;
- ☐ 3. Permit numbers which are requiring the test to be conducted;
- ☐ 4. Test methods to be used (i.e. EPA Method 1, 2, 3, 4, and 5);
- ☐ 5. Alternative test methods or description of modifications to the test methods to be used;
- ☐ 6. Purpose of the test including equipment, and pollutant to be tested; the purpose may be described in the permit which requires the test to be conducted or may be to show compliance with a federal regulation or emission standard;
- ☐ 7. Tentative test dates (these may change but the District will need final notice at least 10 days in advance of the actual test dates in order to arrange for observation);
- ☐ 8. Maximum rated production capacity of the system;
- ☐ 9. Production-rate goal planned during the performance test for demonstration of compliance (if appropriate based on limits);
- ☐ 10.Method to be used for determining rate of production during the performance test;
- ☐ 11. Method to be used for determining rate of production during subsequent operations of the process equipment to demonstrate compliance;
- ☐ 12. Description of normal operation cycles;
- ☐ 13. Discussion of operating conditions that tend to cause worse case emissions; it is especially important to clarify this if worst case emissions do not come from the maximum production rate;
- ☐ 14. Process flow diagram;
- ☐ 15. List the type and manufacturer of the control equipment if any;
- ☐ 16. List the control equipment (baghouse, scrubber, condenser, etc.) parameter to be monitored and recorded during the performance test; note that this date will be used to ensure representative operation during subsequent operations. These parameters can include pressure drops, flow rates, pH, and temperature. The values achieved during the test may be required during subsequent operations to describe what pressure drops, etcetera, are indicative of good operating performance; and
- ☐ 17. How quality assurance and accuracy of the data will be maintained, including;
  - Sample identification and chain-of-custody procedures;
  - Are audit samples required for this test Method (EPA contact number for audit samples 919-541-1062) if yes then please make samples available to the District for observation during the stack test;
  - Audit sample provider;
  - Number of audit samples to be used:
- ☐ 18. Pipe, duct, stack, or flue diameter to be tested;
- ☐ 19. Distances from the testing sample ports to the nearest upstream and downstream flow disturbances such as bends, valves, constrictions, expansions, and exit points for outlet and additionally for inlet;
- ☐ 20. Determine number of traverse points to be tested for outlet and additionally for inlet if required using Appendix A-1 to 40 CFR Part 60;
  - Method 1 if stack is >12”
  - Method 1a if stack is between 4” and 12”
  - Alternate method of determination for <4”
  - If a sample location at least two stack or duct diameters downstream and half a diameter upstream from any flow disturbance is not available then an alternative procedure is available for determining the acceptability of a measurement location. This procedure described in Section 11.5 allows for the determination of gas flow angles at the sampling points and comparison of the measured results with acceptability criteria.
- ☐ 21. The Stack Test Review fee shall be submitted with each stack test protocol.